

Please read this document carefully. If you are uncertain about a step, please contact an electrician for support.

TOSHIBA LED TUBE INSTALLATION OPTIONS

This information is provided for your convenience. Toshiba disclaims liability for any direct, indirect or damages in case of installation performed either not according to these instructions, not performed by an electrician or in case of conversion of the luminaire.

If the existing luminaires is operated more than 8 years, TOSHIBA recommends a replacement of whole luminaires to avoid long aged deterioration of lamp holders etc.

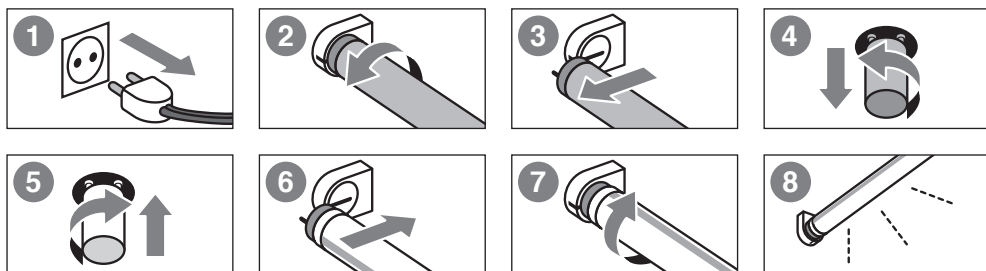
1. Retrofitting in a CCG luminaire

The luminaire can still be used for fluorescent lamps when the normal starter is reinstalled.

The certification of luminaire remains valid.

Installation Instructions:

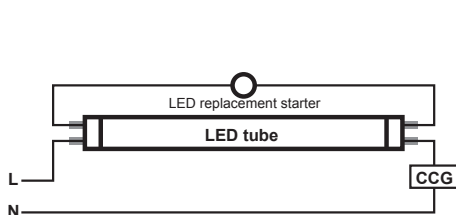
- Make sure if supply voltage and frequency fall within product rating on lamp/package
- Make sure that the supply voltage is disconnected
- Remove the conventional lamp
- Replace the conventional starter to the LED replacement starter delivered with TOSHIBA LED tube
- Insert the TOSHIBA LED tube into lamp holders and check the light distribution angle



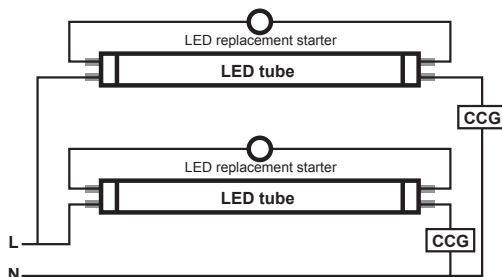
The LED replacement starter in the package is mandatory for operation and safety

Circuit diagram of retrofitted luminaire:

For 1 tube luminaire:



For 2 tubes luminaire:



In case a parallel power factor compensation capacitor is used in the luminaire, it will reduce the power factor. Consider that power factor could need to be adjusted according to local regulations.

2. Direct line voltage connection

If ECG/CCG (ex, for 2 fluorescent tubes) luminaire is retrofitted or the losses of CCGs should be eliminated, rewiring of the luminaire is mandatory. The installation must only be done by a qualified electrician. All the security instructions that follow have to be respected and kept as guidance for future maintenance use. Responsibility of technical and safety consequences of the re-wired luminaire is shifted to the party carrying out the wiring changes. Conformity with all applicable legal requirements must be assured for the rewired luminaire. It must be suitably re-tested. Re-inspection of the luminaire is recommended after conversion according to known standards. The new luminaire has to be specified for TOSHIBA LED tube use only. After re-wiring the new luminaire must not be operated with fluorescent lamps. It is recommended to rewire a luminaire on both sides as shown below. Thus TOSHIBA LED tube can be inserted in any direction with standardized IEC compliant G13 lamp holders. All wires need to be approved for the existing voltages and appliance class. Usually solid wires with single isolation can be used for class I, double insulation wires could be used for class II. The maximum wire cross-section for lamp holders and starters is typically 0.5mm^2 . Built-in control gears must not remain connected after rewiring.

Installation instructions:

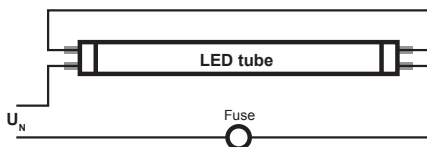
- Only rework done by qualified electricians
- Make sure if supply voltage and frequency fall within product rating on lamp/package
- Make sure the supply voltage is disconnected
- Remove the conventional lamp
- Remove power factor correction capacitor (if installed) to improve power factor
- Rewire the luminaire according to the circuit diagrams shown below
- Use a fuse (250V, T2A)
- Insert the TOSHIBA LED tubes into lamp holders and check the light distribution angle
- Assure that the rewired luminaire conforms with all applicable legal requirements and establish that it complies with all relevant safety requirements and other technical standards
- Mark rewired luminaire visually with "WARNING Sticker"

WARNING:

Do not insert any fluorescent lamp after conversion changes have been made. Fuse (250V, T2A) is necessary for installation protection.

Direct wiring circuit diagram of retrofitted luminaire:

For 1 tube luminaire:



For 2 tubes luminaire:

